AVERTX

HD510

High Definition Outdoor IP PTZ Dome Camera

User Manual

HD IP

HD510 High Definition Outdoor IP PTZ Dome Camera

Operations Manual

Manual Edition 33023AA – OCTOBER 2014

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The following words and symbols mark special messages throughout this guide:

WARNING: Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

AVERTX

IMPORTANT SAFEGUARDS

1. **Read Instructions**
   Read all of the safety and operating instructions before using the product.
2. **Retain Instructions**
   Save these instructions for future reference.
3. **Attachments / Accessories**
   Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.
4. **Installation**
   Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.
5. **Power source**
   This product should be operated only from the type of power source indicated on the marking label.

Precautions

Operating

- Before using, make sure power supply and others are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Care must be taken when you clean the clear dome cover. Scratches and dust will ruin the image quality of your camera. Do not use strong or abrasive detergents when cleaning the camera body. Use a dry cloth to clean the camera when it is dirty. In case the dirt is hard to remove, use a mild detergent and wipe the camera gently.

Installation and Storage

- Do not install the camera in areas of extreme temperatures in excess of the allowable range. (14°F~ 122°F / -10°C ~ 50°C)
- Avoid installing in humid or dusty places. The relative humidity must be below 90%.
- Avoid installing in places where radiation is present.
- Avoid installing in places where there are strong magnetic fields and electric signals.
- Avoid installing in places where the camera would be subject to strong vibrations.
- Never face the camera toward the sun. Do not aim at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise the camera may be smeared and damaged.

REGULATION

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste in accordance with Directive 2002/96/EC. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By proper waste handling of this product you ensure that it has no negative consequences for the environment and human health, which could otherwise be caused if this product is thrown into the garbage bin. The recycling of materials will help to conserve natural resources.

For more details information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

Compliance is evidenced by written declaration from our suppliers, assuring that any potential trace contamination levels of restricted substances are below the maximum level set by EU Directive 2002/95/EC, or are exempted due to their application.

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WARNING

DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.

DO NOT OPEN THE CABINET.

REFER SERVICING TO QUALIFIED PERSONNEL ONLY.CAUTION

CAUTION
TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
RISK OF ELECTRIC SHOCK
DO NOT OPEN

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INTRODUCTION

OVERVIEW

The HD510 PTZ Camera is capable of providing real time streaming video with smooth image quality. The HD510 offers quad streaming and can be used in a variety of installations including shops, stores, home, banks, factories and for building surveillance.

With Power over Ethernet Plus (PoE +), the need for separate power lines is eliminated and cabling and installation costs can be significantly reduced. The light weight, small size, and large degree of rotation of the camera facilitates quick and simple installation on either the ceiling or walls of structures or vehicles.

Camera Default Settings

IP Address	Dynamic Host Configuration Protocol (IP address assigned by router)
Username	admin
Password	1234
Management Port	80
Streaming Port (RTSP)	7070

Product Features

- 2MP 1080p Video
- 30x Optical Zoom Lens
- Pan/Tilt/Zoom Control
- 360° Endless Rotation
- Wide Dynamic Range (WDR)
- Day/Night (ICR)
- Micro SD Support
- Weather-proof (IP66)
- Integrated Heater

ONE: GETTING STARTED

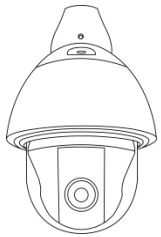
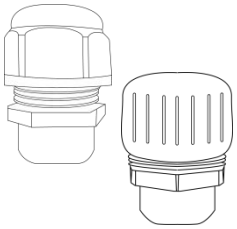
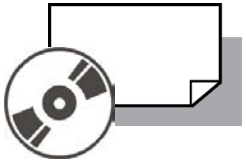
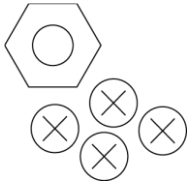
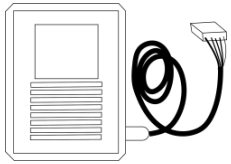
Box Contents

Camera Overview

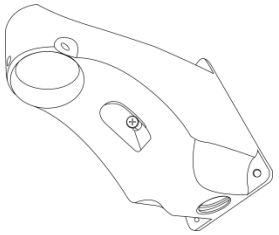
BOX CONTENTS

Before proceeding, please check that the box contains the items listed here. If any item is missing or has defects, DO NOT install or operate the product and contact your dealer for assistance.

Camera Box Contents

 HD510 PTZ Camera	Safety Strap	 Cable Gland & Conduit Gland
 Software & Documents CD	 Set Screw & Washer	 Power Adapter

Wall Mount Accessory Box Contents

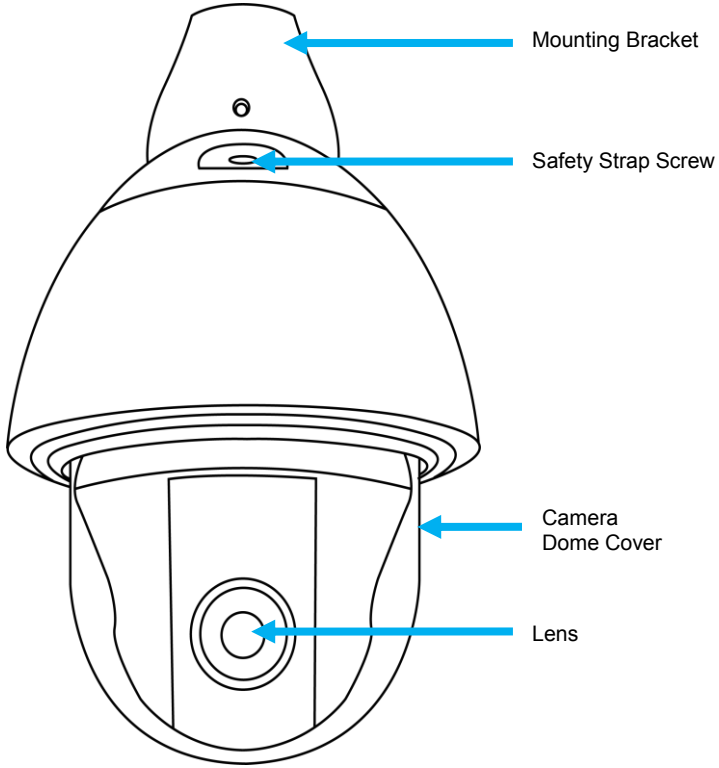


Wall Mount

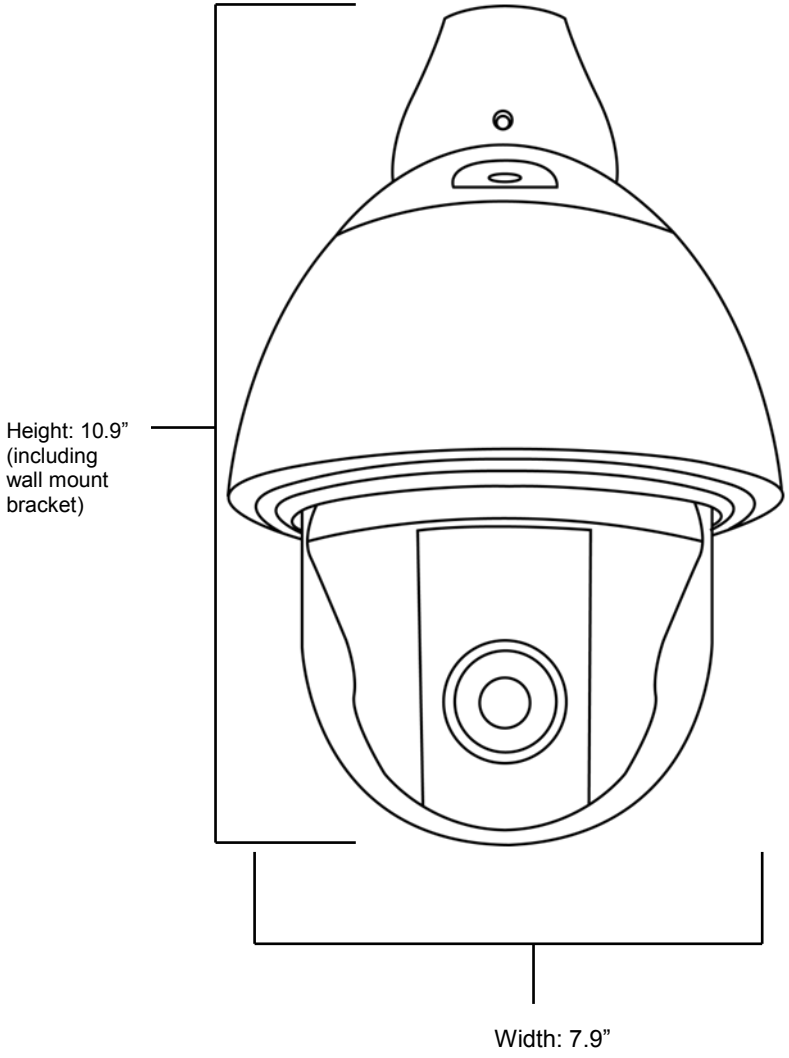
CAMERA OVERVIEW

Before installing or connecting the dome camera, please refer to this section and complete preparations for dome setup and all switch settings.

Camera Diagram



Dimensions



TWO: DEVICE SEARCH

Using the Camera Finder

USING THE CAMERA FINDER

Use the included IP Utility software to easily find your network cameras for initial setup. The IP Utility software is included on the software CD with your camera.

The HD510 PTZ camera is DHCP compatible, meaning it can be assigned an IP address from a DHCP server automatically when connected to the network for the first time. This is ideal for setup that requires an indirect connection between the camera and recorder, usually for network security or installation considerations.

Finding IP Cameras

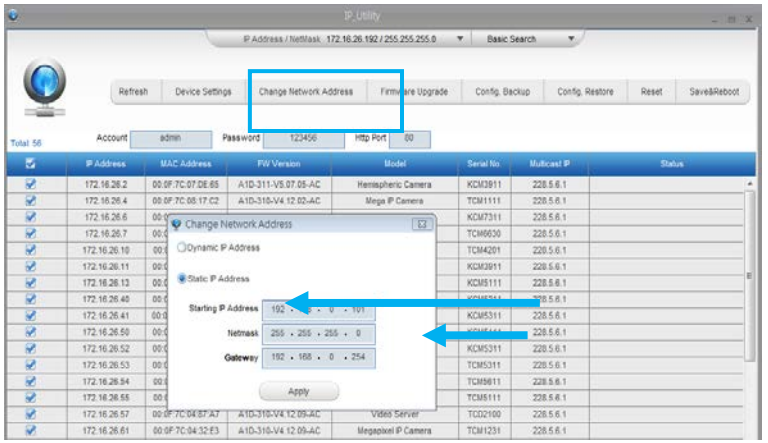
Use the IP Utility software to configure your IP cameras if you are not using Plug N' Play as a direct connection to your AvertX recorder.

1. Open the Software CD on your PC and install the **IP Utility.**
2. In the **IP Utility**, identify your IP camera(s) by IP address or model.

Note Only cameras connected to the network will show up in the IP Utility camera list.

Changing the IP Address of a Camera

1. Click the check box next to the selected camera, and then click **Change Network Address** to modify the IP address of the camera.
2. In the pop-up window, select **Static IP Address,** and then modify the **Starting IP Address.**



3. Click **Apply.**
4. Click **Refresh** in the IP Utility to view the IP camera's new IP address.

Tip The camera is set to DHCP by default. The IP addres is assigned by the router.

Note You can check the box next to multiple cameras to change the IP addresses sequencially.

Administrator/User Privileges

The Administrator account has the authority to configure the IP camera and authorize users' access to the camera. The User accounts have access to the camera with limited authority.

Default Username and Password

The username and password are case sensitive. It is strongly recommended that the password be changed after the initial setup to prevent unauthorized access.

Username – admin

Password – 1234

THREE: SETUP AND CONFIGURATION

Installing the Camera
Connecting to the Camera
Camera Settings

INSTALLING THE CAMERA

The HD510 PTZ camera can be mounted in a number of ways. Depending on the situation, you may need to install the mounting solution first before connecting the cables, or the cables may need to be connected before installing the mounting solution. Below are basic installation details for the standard supplied mounting solution.

Installation Using Wall Mount

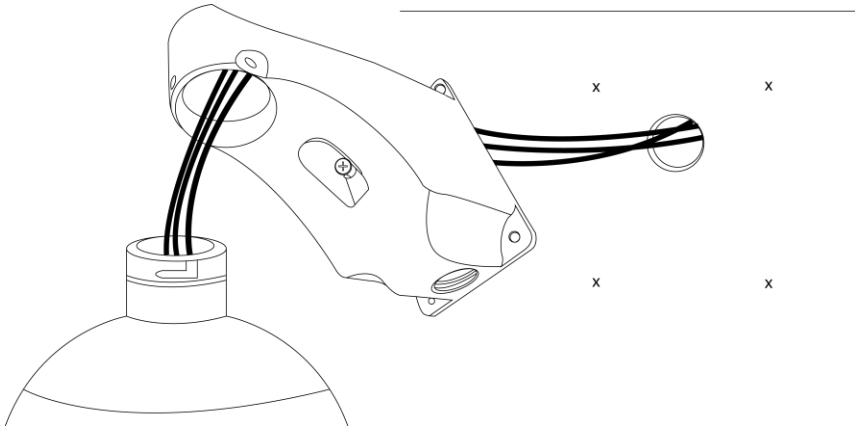
The standard supplied wall mounting solution offers waterproof protection for both the camera and cables. The wall mount has a lower hole that can be used for an outdoor waterproof cable situation, or the cables can be housed inside the wall behind the wall mounting solution. To determine the appropriate cable setup, see the

Network Connection section.

Note If cables must be run outdoors, instead of within the wall, the ideal waterproof protection is running the cables through conduit.

Running Cables Inside the Wall

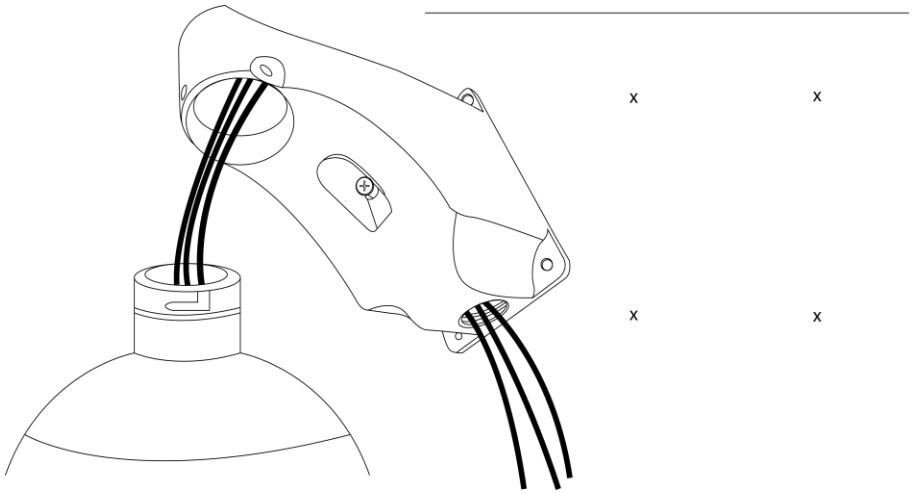
1. If running cables through the **wall** behind the wall bracket, drill a ½" hole in the wall, and then pull all cabling through the upper hole in the wall bracket and connect the cables from the wall to the cables from the camera.



2. Screw the wall bracket to the wall using screws appropriate for your installation situation.

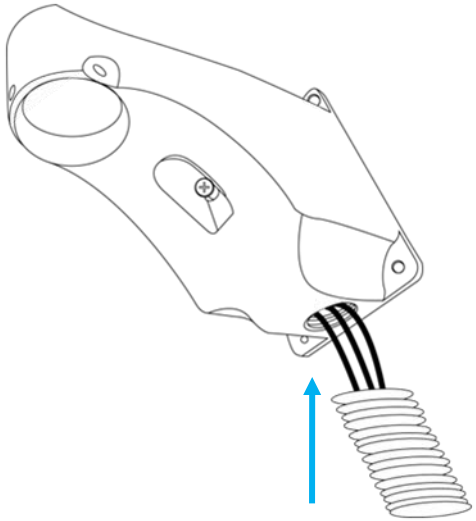
Running Cables on Wall Exterior

1. If running cables **outdoors using a waterproof solution such as conduit,** pull all cables through the upper hole in the wall bracket, and then back out the lower hole of the wall bracket.



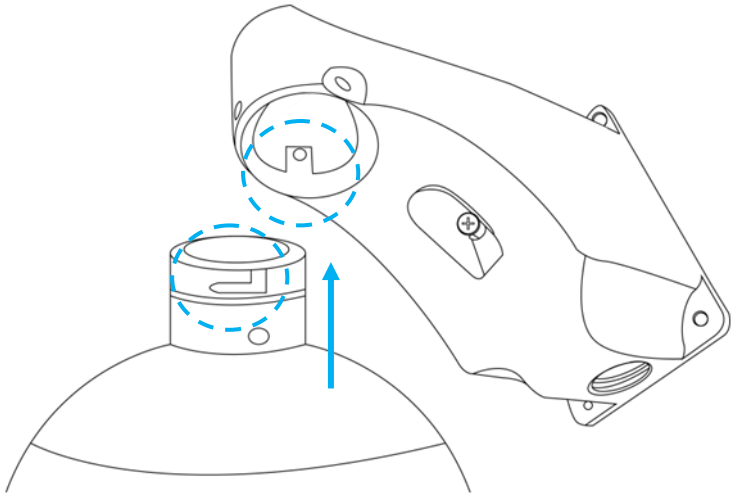
2. Screw the wall bracket to the wall using the screws appropriate for your installation situation,

3. Pull the cables through the conduit, and then push the conduit into the lower hole of the wall mount bracket.

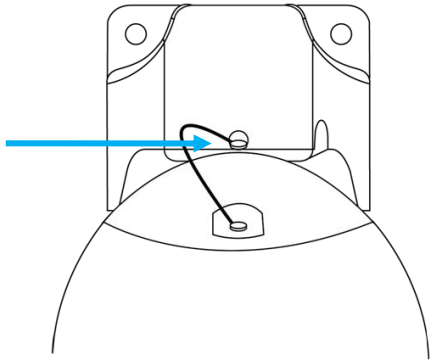


Attaching the Camera to Bracket

1. Align the groove in the camera mount tube with the lock on the inside of the upper hole on the wall bracket.



2. Twist the camera mount tube into the wall mount bracket until the camera locks into place.
3. Using the set screw provided, screw the camera mount tube to the wall mount bracket.
4. Attach the safety strap to the camera and the wall bracket.



Network Connection

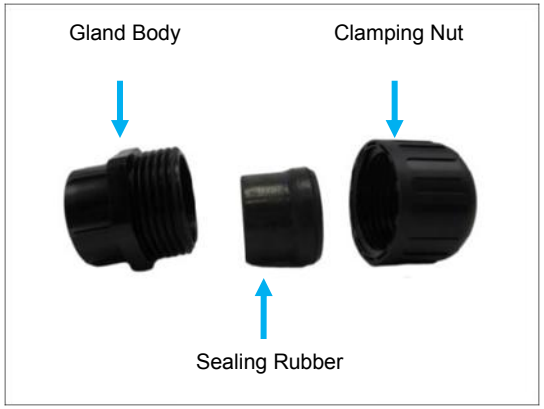
Two waterproof cable connection solutions are offered with the HD510 PTZ camera. If the cables run from the ceiling or wall into the camera, then the connection can be considered waterproof. If the camera is mounted in a way that exposes the cables, then it is recommended to waterproof the cables using the included connection glands, along with conduit or exterior grade Ethernet cable and waterproof tape, which are NOT included.

Waterproof the Cable Using the Conduit Gland

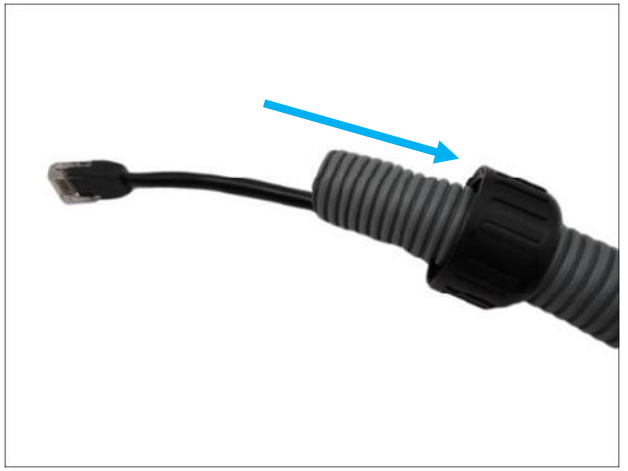
For waterproof cable using the conduit gland, you will need:

- Conduit gland (included)
- Gland rubber ring (included)
- ½" Flexible conduit (not included)
- Waterproof tape (not included)

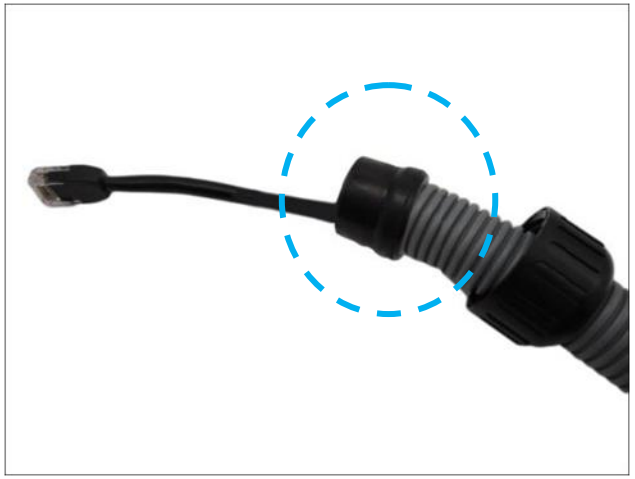
5. Disassemble the cable gland.



6. Insert the Ethernet cable through the conduit. Then insert the conduit through the clamping nut.

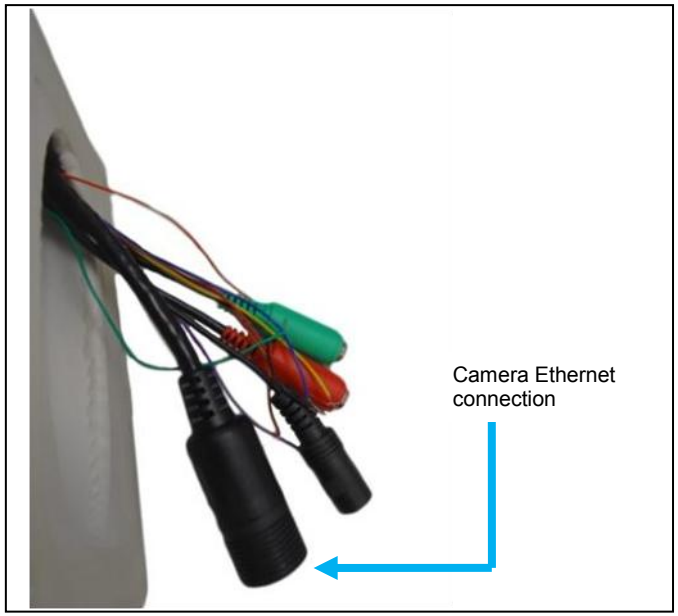


7. Slide the sealing rubber over the Ethernet and attach the sealing rubber to the end of the conduit.



4. Attach one rubber ring (included) on the gland body.

5. Attach the gland body to the Ethernet port of the camera.



Note Ensure the rubber ring is completely aligned and flat on the gland body to prevent water leakage.

6. Connect the Ethernet cable to the Ethernet port of the camera.
7. Insert the sealing rubber into the conduit gland body.

8. Tightly attach the clamping nut to the conduit gland body.

9. Arrange all unused camera cables and wrap them in waterproof tape.

Note Different applications and installation environments require different types of waterproof methods that may not be covered in this manual. Check your installation environment and adapt a suitable waterproof mehod.

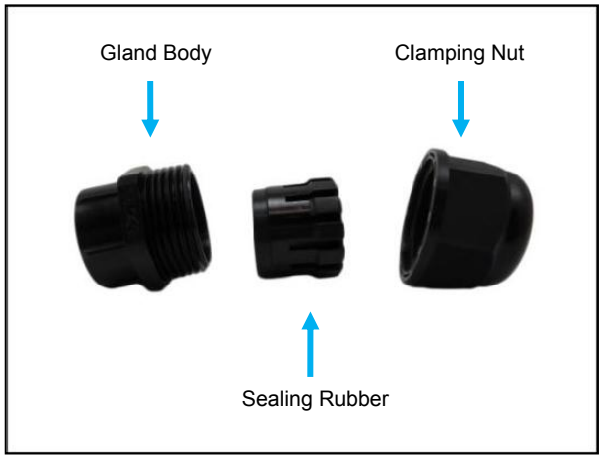
Note If the camera is installed outdoors and the bundled power adapter is used, be sure to protect if from different environmental factors. It is reccommended to place the power adapter indoors or housed inside a junction box.

Waterproof the Cable Using the Cable Gland

For waterproof cable using the cable gland, you will need:

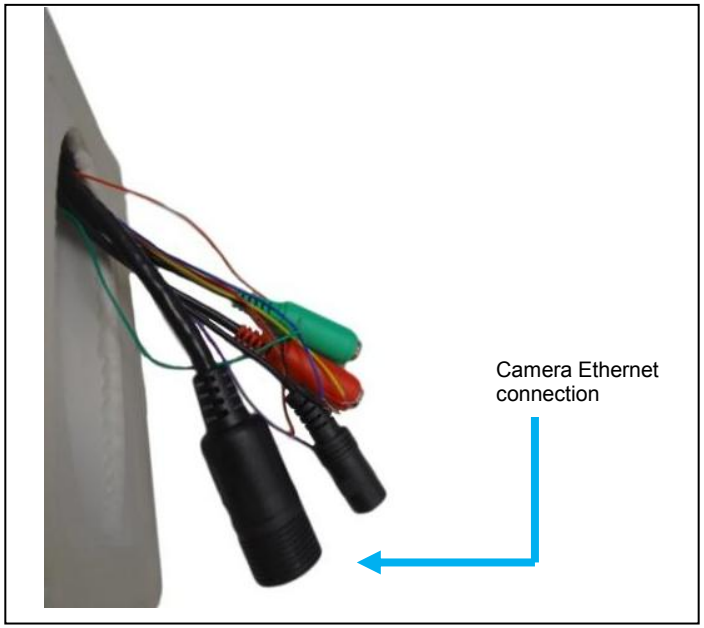
- Cable gland (included)
- Gland rubber ring (included)
- Exterior grade Ethernet cable (not included)
- Waterproof tape (not included)

1. Disassemble the conduit gland.

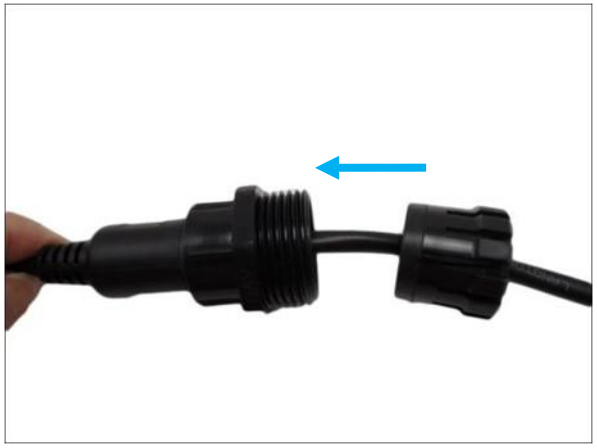


10. Slide the clamping nut onto the Ethernet cable.
11. Insert the Ethernet cable through the sealing rubber.
12. Attach one rubber ring (included) on the gland body.

13. Attach the gland body to the Ethernet port of the camera.



14. Connect the Ethernet connector to the Ethernet port of the camera.
15. Insert the sealing rubber into the gland body.



16. Tightly attach the clamping nut to the cable gland body.

Note Different applications and installation environments require different types of waterproof methods that may not be covered in this manual. Check your installation environment and adapt a suitable waterproof mehod.

Note If the camera is installed outdoors and the bundled power adapter is used, be sure to protect if from different environmental factors. It is reccommended to place the power adapter indoors or housed inside a junction box.

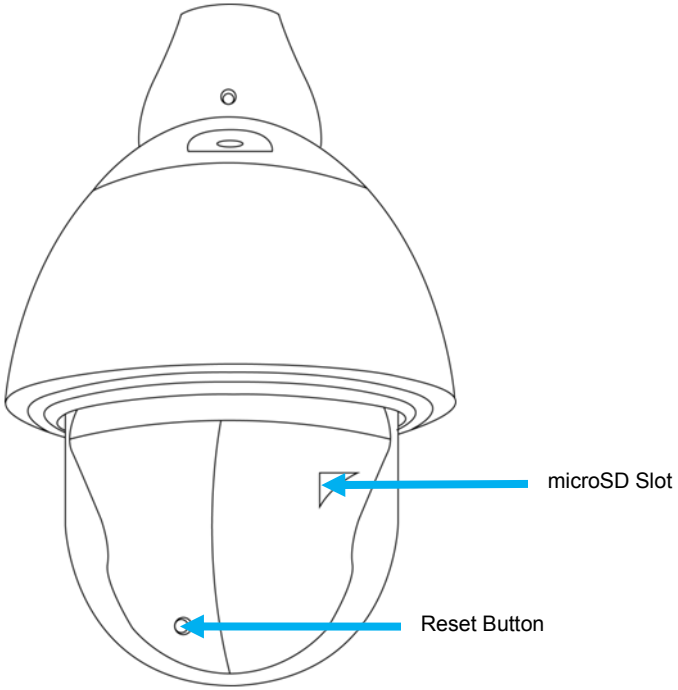
Resetting the Camera

If it is necessary to reset the camera to the factory default settings, hold down the Reset button (see *Camera Overview*) for 30 seconds. This will return all settings, including network setup, to the factory default. The IP address of the camera will be reassigned by the router.

microSD Card

Your camera includes a microSD card slot (compatible with cards up to 32GB), which can be used for emergency video backup. The microSD card is not included. You must remove the clear dome cover of the camera to access the microSD card slot.

Note The camera dome cover must be removed to access the microSD card and the reset button.



CONNECTING TO THE CAMERA

Connecting in a Web Browser

1. Type the IP address of the camera in a web browser.
   --OR--
   Use the included IP Utility software and locate the camera on the IP Finder list, then double-click the camera to open the Viewer software in your web browser, or right-click and select **Browse.**
2. Log in to the camera with the appropriate User Name and Password.

Note The default User name is admin and the default Password is1234. The username and password are case sensitive.

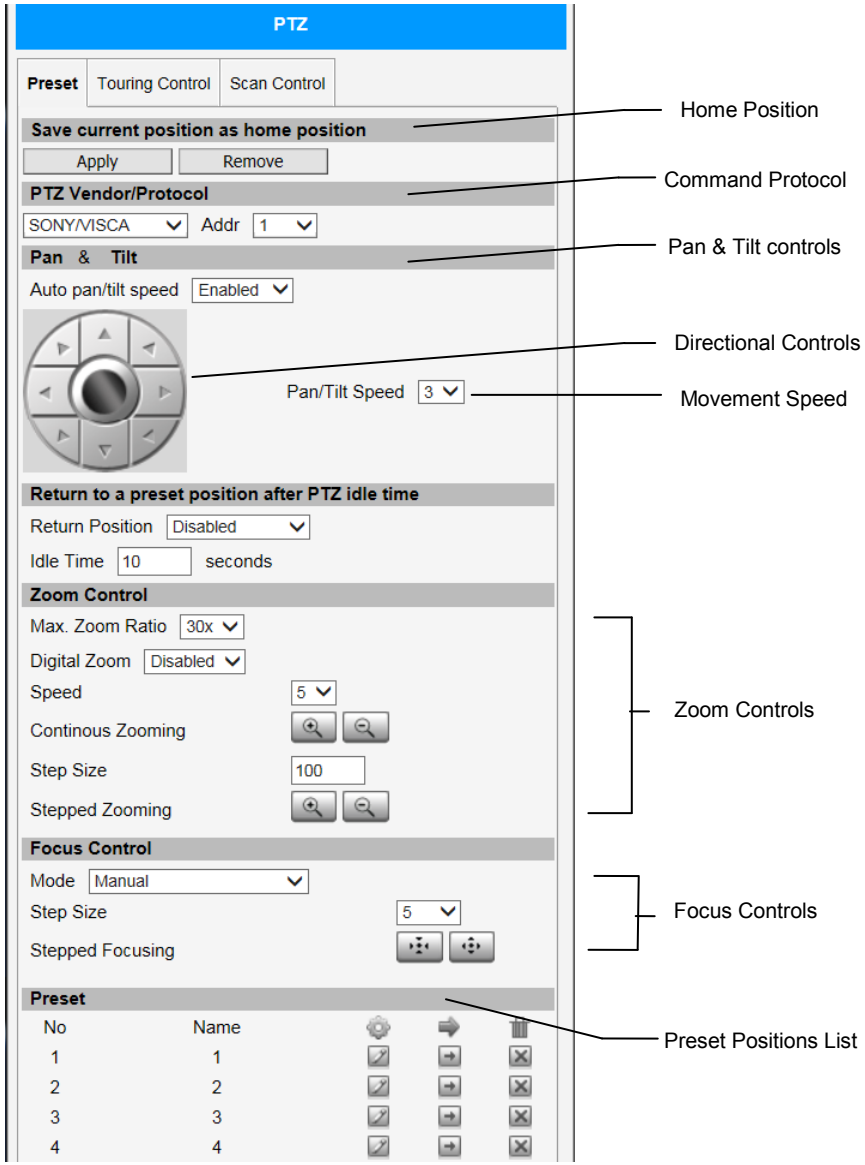
LIVE VIEW

When connecting to the camera in a web browser, the Live View screen is the default home screen. From this screen you can view and control live video.

Note If you are accessing the camera through the recorder, your live screen may be empty because the default port for the camera is different.

	Live View: displays the live camera view
	Settings: displays camera configuration functions
	Streams: show stream 1 or 2 in the live view
	Full Screen: enlarge the live camera view to full screen
	Snapshot: take a Snapshot, these JPGS are saved in the Pictures folder
	Audio: speak to the camera
	Zoom Controls: enlarge and reduce the video size digitally
	PTZ Controls: this will open the PTZ camera control panel
	DO Ports: select a DO port, 1 or 2
	DO Port Level: manually trigger a DO device

PTZ CAMERA CONTROLS



Home Position

Use the Pan Tilt controls to navigate the camera to the desired position and then click the **Apply** button to designate the camera's current position as the Home Position.

Command Protocol

If the camera needs to be used with third party devices, the camera supports Serial Hex Command as a low level PT command set. Select the **PTZ Vender/ Protocol** to use and the address. Otherwise, leave default settings.

Pan and Tilt

Use the Directional Controls to pan/tilt the PTZ camera.

Auto Pan/Tilt Speed: when enabled, the camera will automatically set the pan/tilt speed according to the zoom ration and selected pan/tilt speed while also maintaining clarify and quality of image.

Movement Speed: when auto pan/tilt speed is disabled, the camera will follow the value set in the Pan/Tilt Speed field. Higher numbers represent faster speeds.

Zoom Controls

To zoom continuously:

1. Select a **Speed,** with higher numbers representing faster speeds.
2. Click and hold the **Continuous Zooming** buttons for zooming in or out.

To zoom in steps:

1. Enter the desired **Step Size.**

3. Click the **Stepped Zooming** buttons one click at a time to zoom in by the set **Step Size** per click.

Focusing the Camera

After adjusting the camera, it is recommended to adjust the Focus Control for optimal video quality.

Auto Refocus after Zoom: this option will automatically adjust the camera focus after zooming.

Manual: select this option to manually adjust the camera focus. This option is useful if the autofocus option is not the desired position.

Preset Positions List

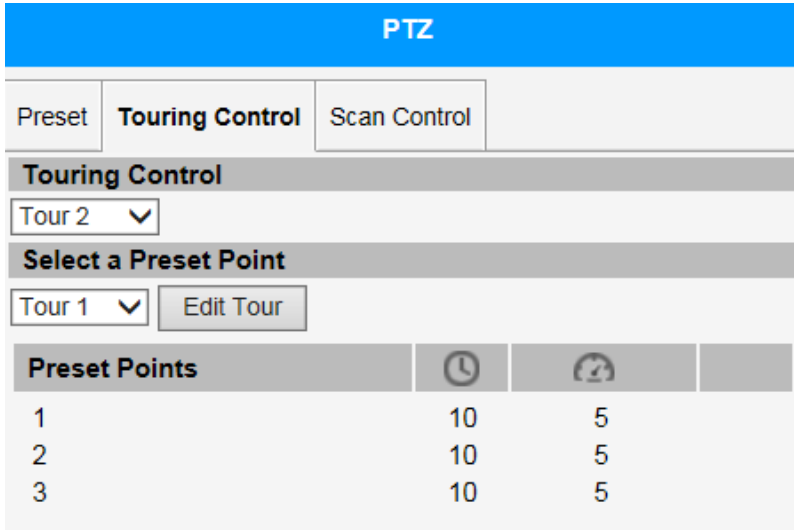
Preset positions are user defined camera positions that can be zoomed in on. A series of these points can be grouped together as a **Tour.**

To create a present position:

1. Click the **Edit** icon next to the position number you wish to configure.
2. Type a **Name** for the position.
3. Pan, tilt, and zoom on the area until you have the desired camera angle and focus.
4. Once completed, click the **Edit** icon again to complete the preset position configuration.
5. To create more preset positions, repeat steps 1-4 as needed.

Note The **Go-to-Preset** icon will take you to the preset position once it has been designated. The **Delete** icon will delete the preset position.

Set and Enable Tours



After preset positions have been created, they can be grouped into a **Preset Tour.**

To configure a **Preset Tour:**

1. Click **Edit Tour** in the Touring Control tab of the PTZ menu.
2. Select a **preset position** using the drop-down menu.
3. Designate the duration (in seconds) of that preset position.
4. Select a **pan/tilt speed** from the drop-down menu, and then click the **Add** icon .

Add preset positions to the tour as needed. To change the sequence of the preset positions, use the **directional** icons to move points up or down the list.

5. When you are finished setting the preset positions for the tour, click **Save.**
6. Using the Touring Control drop-down menu, select the desired tour **name** to activate the tour.

PTZ Scan Function

The Scan function moves the camera from one predefined point to another by scanning the view horizontally without losing focus. Unlike preset tours, where the camera moves quickly and can focus independently depending on the preset position, scan keeps the entire view in focus and moves at a steady, consistent pace.

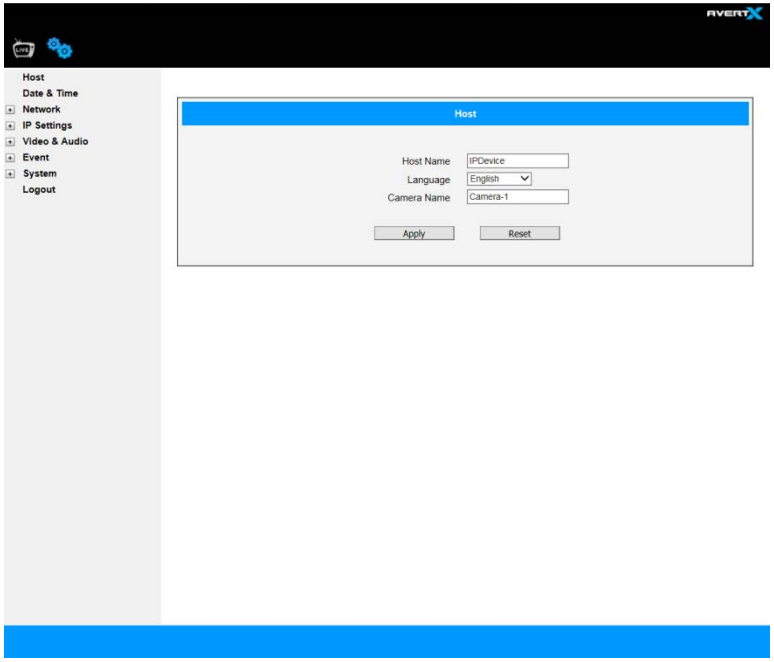
To configure the PTZ Scan Function:

1. Click the **Edit** icon next to scan point 1 to set the starting scan point.
2. Pan and tilt the area that you will set as scan point 1.
3. Click the **Edit** icon again to close and complete scan point 1.
4. Repeat steps 1-3 for scan point 2.
5. Set the preferred **Scan Speed** and **Scan Direction.**

Note The **Delete** icon will delete the scan point configuration and allow you to set new scan points.

CAMERA SETTINGS

You can access the camera setup menu using an internet browser on your computer. The camera viewer software will install automatically the first time you connect to the camera. If your internet browser doesn't install the viewer software, check the security settings or ActiveX controls and plug-in settings. If your internet browser asks for permission to install the plugin, you must allow ActiveX or QuickTime to install to continue the installation.



Viewer Tabs

Host – define the name of the camera and the preferred interface language.

Date and Time – provides options for adjusting the time and date of the camera.

Network – listing of network related functions, services, and protocols.

IP Settings – define which devices (by the IP addresses) are allowed to connect to the camera.

Video and Audio – control the video and audio functions of the camera.

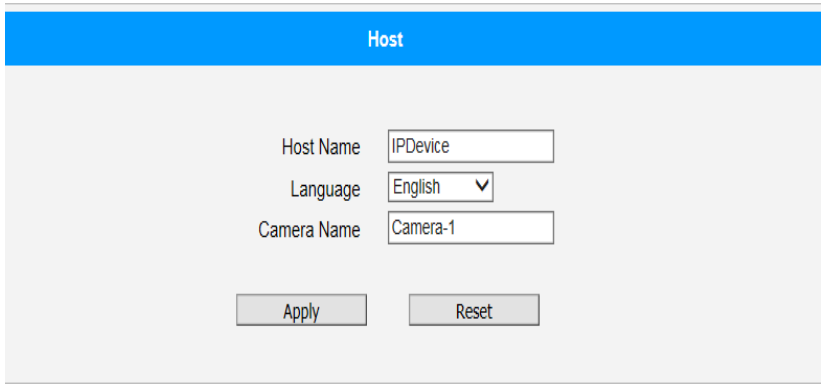
Event – configure events, triggers, and responses.

System – full information about the camera, settings, status, and log.

Logout – log out of the IP device.

Host

Host options include the Host Name, Language options, and the Camera Name that will be displayed to identify the channel.



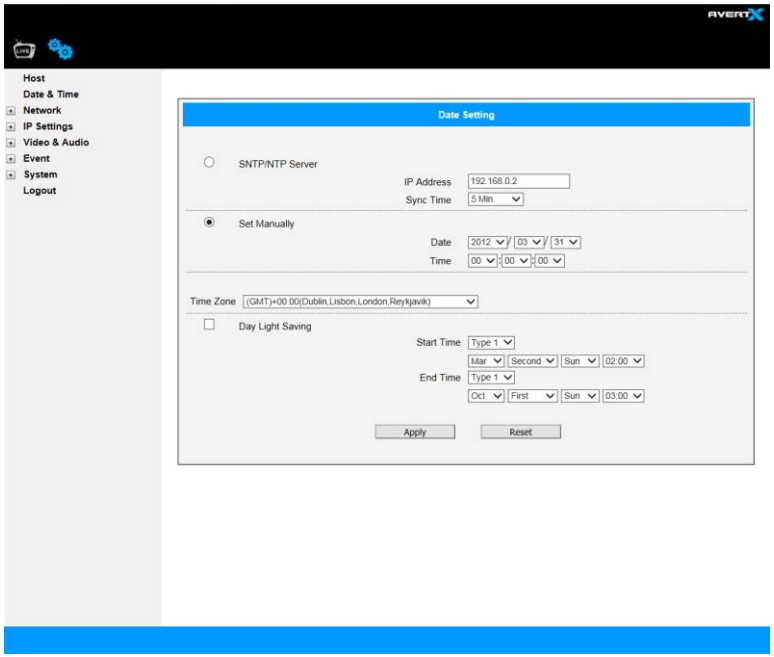
Changing the Host Name and Camera Name

1. Click within the **text box** you wish to modify.
2. Type the new desired name.
3. Click **Apply.**

Changing the Language

1. Click the **Language** drop down menu
2. Select a language, and then click **Apply.**
3. The browser will refresh, and then display the selected language.

Date and Time



Setting the Date and Time

SNTP/NTP Server – configure the settings by pulling date and time information from a reliable provider.

Set Manually –configure the settings manually using the Date and Time drop-down menus.

Daylight Saving – for countries with Daylight Savings policy, there are two ways to define the start time: by week in the month or by exact date in the month.

Network

IP Address Filtering

If you wish restrict or allow specific IP addresses from accessing the camera, you can use the IP address filter. You can **Block** or **Allow** IP addresses.

To restrict or allow specific IP addresses to access your camera:

1. Check the **Enabled** check box.
2. Using the drop-down menu, select **Blocked** or **Allowed.**
3. Type in **IP address** or **Network** that you wish to block/allow access to your camera.
4. Check the **Enabled** check box next to the address.

Note You can have IP addresses or Networks on the list, but not enabled. The Enabled check box must be checked in order to activate either blocking or allowing that address.

7. Click **Apply.**

Note The Reset button will erase all of the IP and network addresses and return the list to default, with no addresses and no Enabled check boxes checked.

Port Managing

Port Managing allows you to modify the default port settings for the camera.

Note Some settings may require a Save and Reboot after applying the changes in order to activate the changes on the camera. You will be prompted after applying a change if a Save and Reboot is needed.

To change the default port settings for your camera:

1. Click in the appropriate **text box** for the port number you wish to change.
2. Type the new **port number**.
3. Click **Apply.**

Note The Reset button will change the port numbers back to the numbers established before the Apply button was clicked.

HTTPS

HTTPS protocol is used to create a secure channel over an insecure network in order to protect data. HTTPS does this by using certificates to verify that the data is accurate.

Certificate Signing Request (CSR): users have a signed certificate from a Certification Authority (CA).

Self-Signed Certificate: user has a certificate created or issued by the user himself.

1. Click **Create** or **Create Self-Signed Certificate** to configure settings.
2. Enter the appropriate information in the pop-up configuration window.
3. Click **Create.**

Note After the creation of a certificate, you will be prompted to Save and Reboot to apply the settings.

IEEE 802.1X

IEEE 802.1X is an IEEE standard for port-based Network Access Control. This requires network port devices to provide verification before being allowed access to a protected network, usually in the form of a username and password.

1. To enable IEEE802.1X, check the **Enabled** check box.
2. Designate an **EAPOL Version**.
3. Enter the desired **Username and Password** that will be used for verified access to the network.
4. Upload **CA** or **User Certificate**, and **User Private Key** from the RADIUS server.
5. Click **Apply.**

Note After the configuration of IEEE 802.1X, you will be prompted to Save and Reboot to apply the settings.

SNMP Setting

SNMP provides easy management of network devices. Features of SNMP include monitoring device uptime, system detail description, collection of interface information, and measuring network interface throughput.

To modify SNMP settings:

1. Check the **Enabled** check box.
2. Modify settings appropriately.
3. Click **Apply.**

SNMP V1 / V2: uses “Community” name as password to authenticate identity. “Read Community” is the password for server to get information from devices. “Write Community” is the password for server to edit values on devices.

SNMP V3: uses account/password for authentication. “Security Name”: is the account name to be used with your “Password” The default secuty name is “public.”

SNMP Trap Usage: SNMP trap enables notification from devices. Notifications will be sent on cold start, warm start, and authentication failure.

RTP

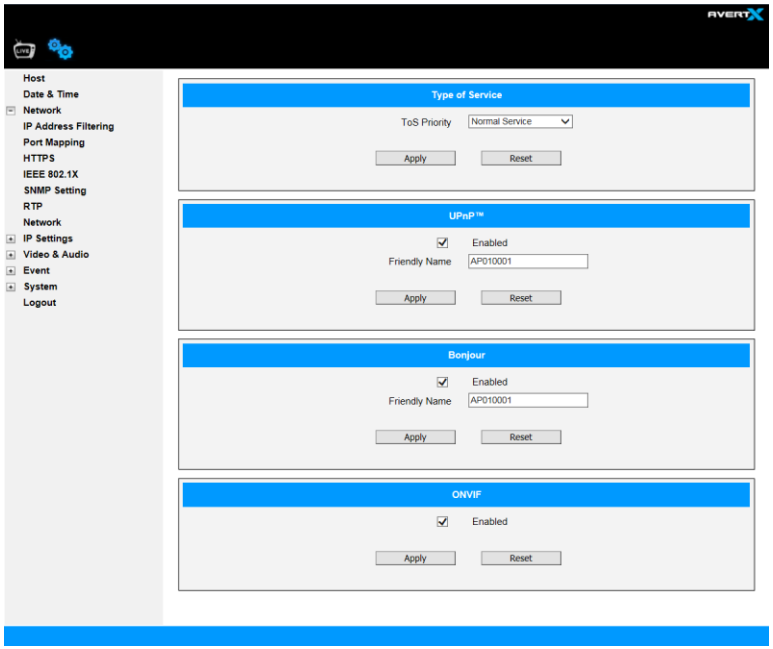
If RTP is enabled, then account name and password authentication will be required for RTP streaming. Enabling RTP sends an additional B2 frame to every video frame, containing information such as motion detection, digital input and output levels, frame counter, resolution, timestamp, and more.

To modify RTP settings:

1. Check the **Enabled** check box.
2. Modify settings appropriately.
3. Click **Apply.**

Network

Network allows you to manage default protocols for your camera. These protocols can be enabled or disabled and in some instances, the protocol can be given a specific name for easy identification.



Type of Service Priority

Type of Service provides 4 options to define the priorities of how the date from the camera is handled by routers that support ToS. These settings include: normal service, minimize delay, maximize throughput, and maximize reliability.

Click **Apply** to save changes made to ToS Priority.

UPnP

Universal PlugNPlay is a zero-configuration networking protocol that allows network devices to establish functional network connections for data sharing and communication. UPnP is responsible for allowing devices to dynamically join a network, obtain an IP address, and communicate with other network devices.

Note Disabling UPnP will require a manual configuration of the camera.

Bonjour

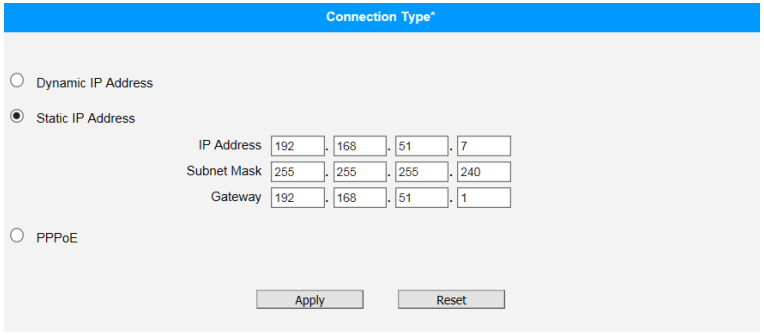
Bonjour is Apple's implementation of zero-configuration networking, allowing network devices to establish functional network connections for data sharing and communication. This software is mainly used on OS X and iOS network devices.

ONVIF

ONVIF protocol allows for integration between devices, regardless of manufacturer, based on a global standard for the interface of IP-based security products.

Note Disabling ONVIF could disrupt the communication between devices from different manufacturers.

IP SETTINGS


Connection Type*
Dynamic IP Address
Static IP Address
IP Address 192 . 168 . 51 . 7
Subnet Mask 255 . 255 . 255 . 240
Gateway 192 . 168 . 51 . 1
PPPoE
Apply
Reset

Connection Type

Dynamic IP Address: Having a dynamic IP address means that the IP address for the camera can change depending on how the network router assigns addresses to network devices. By default, the camera is in Dynamic IP Address mode and will attempt to get an IP address from a DHCP server. If this attempt fails, the camera will automatically assign itself an IP address, listed under Static IP Address.

Static IP Address: Having a static IP address means that the IP address for the camera will not change once assigned.

PPPoE: In some rare cases, the camera may be connected over the Internet. The most effective way to do this is with Power over Ethernet, using an Ethernet cable to both power the camera and provide a network connection.

To change the connection type:

1. Click the appropriate **connection type.**
2. If needed, designate the specific addresses.
3. Click **Apply.**

DNS

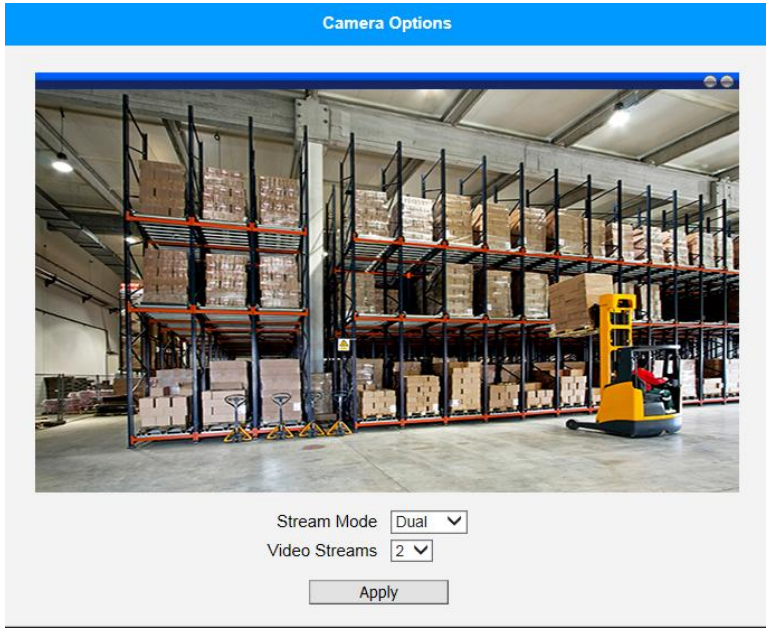
DNS allows the setup of a Domain Name Service for the camera, which will connect to the DNS server when there is a situation requiring a domain name to send data to. The most common application for DNS is the ftp or e-mail server in the Event Handler section.

You can establish both a primary and secondary DNS server address.

Video and Audio

The default video and audio settings are sufficient in most installation settings. This section provides detail on streaming, video quality, and audio configuration if settings need to be adjusted.

Camera Options

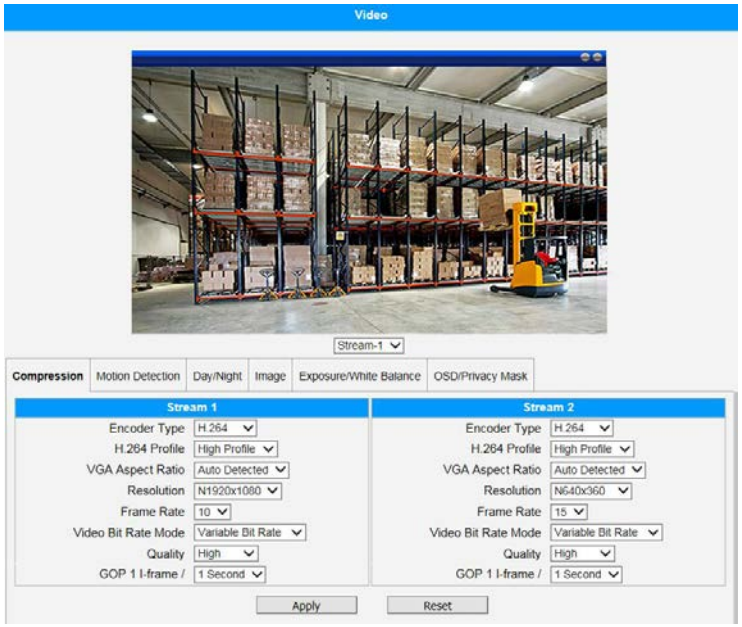


Camera options allow you to control the streams of the camera, including the Stream Mode and the number of Video Streams.

To modify the camera streams:

1. Use the drop-down menus to select **Stream Mode** and the number of **Video Streams.**
2. Click **Apply.**

Video



Video allows you to modify detailed features of the camera, including Compression, Motion Detection, Day/Night, Image, Exposure/White Balance, and OSD/Privacy Mask.

Compression

This section allows the configuration of Stream 1 and 2. Compression reduces bandwidth and VMS storage consumption. Usually, Stream 1 is the best quality stream for NVR recording purposes, while Stream 2 is configured for basic quality in Live view of NVR.

Motion Detection

Motion detection is based on Stream 1, and by default, all regions are disabled. Up to three detection regions can be enabled, each with their own location, size, and sensitivity.

To enable and configure motion detection:

1. In the Motion Detection tab, click **Setup.**
2. Check the **Enabled** check box to enable the desired Detection Regions.
3. Drag the **detection square** to the desired region in the camera view.
4. Drag the **lower right corner** of the detection square to change the size if needed.
5. Using the drop-down menu, se the **sensitivity** of the detection square. The lower the sensitivity, the more movement is permitted before triggering an event.

Trigger Threshold

Trigger threshold is an effective tool for quantifying how much movement and what speed of movement that will trigger an event. This is necessary in outdoor situations where insects or small animals may cause a motion detection trigger.

Thresholds are based on pixel percentages. The default trigger threshold is 10% of pixels moving. Ideally, the trigger threshold is small enough to effectively sense human and vehicle motion, but ignores any smaller motion.

Low threshold: 0-5%, will detect and trigger even minute movement.

High threshold 5-100%, will detect and trigger only larger movement.

Motion Detection Profile

There are two profiles available for motion detection**: Runtime MD Profile** and **Event MD Profile**. These are independent groups that can have three separate regions per group. Having two separate profiles is most commonly used when motion detection needs are different between day and night.

Day Night

This section allows for the configuration of day/night settings. The AvertX HD510 has three Day/Night Modes:

Auto: the camera wil automatically switch between day mode (color) and night mode (black and white) under certain exposure levels. This level is defined by the user in the Switch from Day mode to Night mode drop-down menu.

Day: the camera stays in day (color) mode regardless of the exposure level.

Night: the camera stays in night (black and white) mode regardless of the exposure level.

To configure Auto Day/Night mode:

1. Select **Auto** in the Day/Night mode drop-down menu.
2. Use the **Switch from Day mode to Night mode** drop-down menu to select an exposure value that will switch the camera from one mode to another.

   --OR—

   Use the sliding scale to set the exposure value.

Image

This section allows for the configuration of certain parameters of a video frame. The default settings in this section are well suited to most environments and it is recommended that the default remain unchanged.

Exposure / White Balance

This section allows you configure exposure settings, such as shutter, iris, and gain control, and white balance settings. The default settings in this section are well suited to most environments and it is recommended that the default remain unchanged.

OSD

On-Screen Display is used to add text to the upper or lower left corner of video. This can be used for branding or authentication purposes. Primarily, the text is kept as small as possible and is not resizable. The text is kept as small as possible as not to block any video.

To add an OSD to your video:

1. Check the **Enabled** check box next to the desired OSD region.
2. Use the drop-down menu to choose a **color** for the text.
3. Set the **transparency**. This dictates the color saturation for the OSD and how well you can see the video behind the text. A lower transparency will be easier to see through.
4. Choose a **position** for the OSD to appear.
5. Type the desired **text** to appear as the OSD.

Note See the Apendix for a list of special characters that can be used in the text box to give special meanings, such as Date and Time as configured by the camera, and special characters.

Privacy Masks

Privacy masks are used to intentionally block specific areas of video, most commonly used to hide faces. You can have up to four regions of privacy masks, though they will all be the same color. The privacy mask is dynamic. When the camera pans, the region that was originally covered will remain covered.

To set up privacy masks:

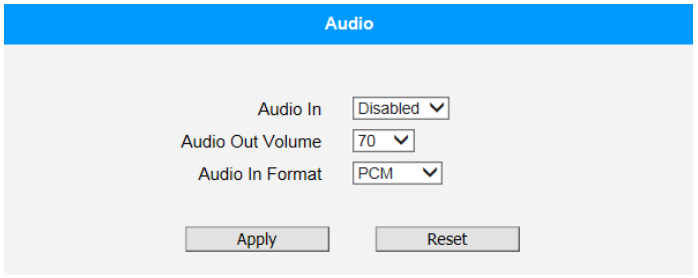
1. Check the **Enabled** check box next to Region 1.

Note Although up to four regions can be enabled, they must be enable in sequencial order.

---

2. Check the **Setup** box.
3. **Drag and resize** the privacy mask as needed. The upper bar containing the region number is used to move the privacy mask while the box at the lower right corner of the privacy mask is used to resize.
4. Return to **live view** and ensure the privacy mask is correct.

Audio



The AvertX HD510 PTZ camera supporst audio features.

Audio In: when enabled, incoming audio is activated. When disabled, incoming audio is turned off.

Audio Out: can be adjusted from a scale of 0-100, effect the volume level of the speakers connected to the camera.

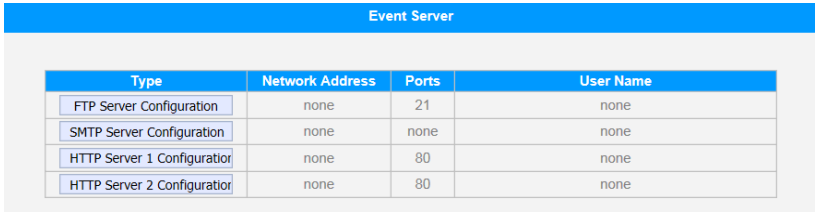
Audio Format: compression format for audio.

Event

The AvertX HD510 has an Event Handler, or set of protocols that determine how to deal with IP devices and their response to situations, including both triggers and responses. The AvertX HD510 can interact with numerous external devices to activate triggers and prompt responses.

Click the **Expand** icon next to the **Event** list to expand the options.

Event Server



The event servers define which devices the camera can interact with, most commonly being other devices on the network. The event servers are classified as FTP, SMTP and HTTP servers.

FTP Server: these servers receive snapshot or video uploads that are issued as part of the response from event handlers. To set up a FTP server, enter the necessary information and click **Apply.**

SMTP Server: these servers send email upon request from the camera. The email can be subject and text email or include a snapshot / video. You can have a primary and secondary SMTP server.

To configure a SMTP server:

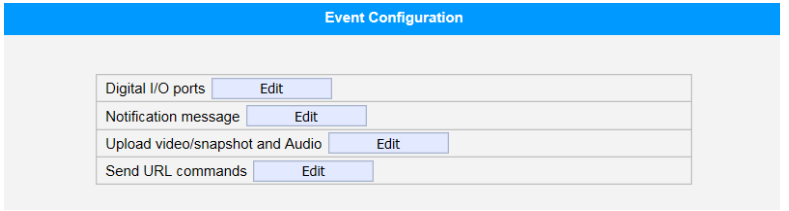
1. Enable the **SMTP account** and choose the proper authentication type.
2. Enter the appropriate information.
3. Click **Apply.**

HTTP Server: these servers can be programmed to perform a large variety of actions based on the input.

To configure a HTTP server:

1. Enable the **HTTP server** and choose the proper authentication type.
2. Enter the appropriate information.
3. Click **Apply.**

Event Configuration



The event configuration section defines the responses to be performed when an event is triggered. For most type of responses, you can create several different preset responses, then mix and match in the event rules.

Configurable responses are classified as Digital I/O ports, Notification messages, Upload Video/Snapshot and Audio, and Send URL Commands.

Click the **Edit** button next to the category that you want to configure.

Digital I/O Ports

Digital I/O Ports are used to connect digital input (DI) and digital output (DO) devices. Typically, DI is a trigger device such as a switch or sensor. The DO is notified by the trigger and then performs a specific action, such as sounding an alarm.

To configure the **Digital Input Device:**

1. Define the active level as 1 or 0 using the drop-down menu. An active level of 0 means the DI device is inactive unless triggered.

2. Specify an **Interval**. The Inverted is the duration of time when the trigger remains in active mode before returning to active level 0.

To configure the **Digital Output Device:**

1. Define the active level and response interval as with the DI device. The default active level for DO devices is 1, which means the DO device will respond once triggered.
2. Click **Apply** when you are finished configuring both DI and DO devices.

Notification Message

Notification messages can be sent to an email or a HTTP server. You can configure up to three preset messages.

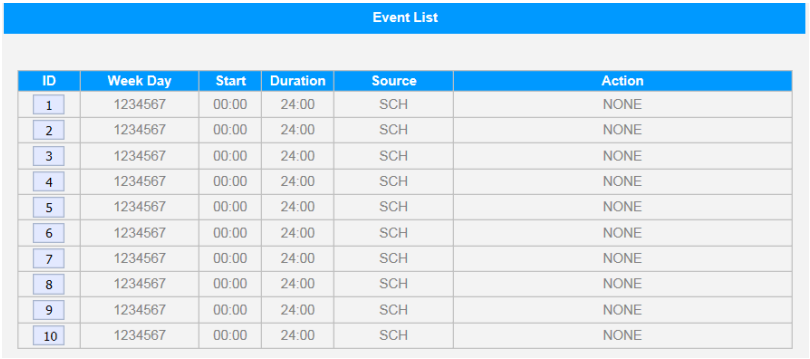
To configure notification messages:

1. Check the **Notification Message** box to enable the message and then use the **Send Message to** drop-down menu to determine if sending the message to an email or a HTTP server.
2. Enter the appropriate information depending on which method you have chose.
3. Click **Apply.**

Upload Video / Snapshot

Your AvertX HD510 camera can send video recording/ snapshots to your chosen server upon event. If audio is enabled on the device, the uploaded video will also have audio.

Event List



There are a maximum of 10 Event rules which are shown in abbreviated form in the Event List.

To configure a new event:

1. Click the desired **ID number**.
2. Check the **Enabled** check box.

Note You can still configure an event even if it is not enabled. The event configureation will be saved and can be enaled at a later time.

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5. Check the **Active on** check boxes for the desired week days the event will be active.
6. Use the drop-down menus to chose a time and event duration.

For example, a rule that allows motion detection trigger snapshot uploads to FTP would only take place after 19:00 each day for a 12 hour duration. Outside of this duration, this event will not take place.

There are several triggers that can cause events. These triggers include:

DI: digital inputs, or external network devices that are connected to the camera. These include sensors or switches.

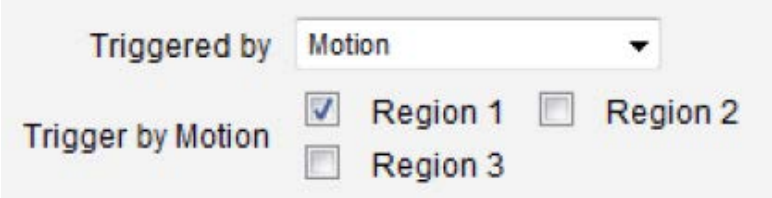
Motion: if the camera senses motion detection.

Video Loss: this is available for video servers only. When analog video is lost it will trigger an event.

Switch to Night Mode: when the camera changes between day and night modes, an event can be triggered.

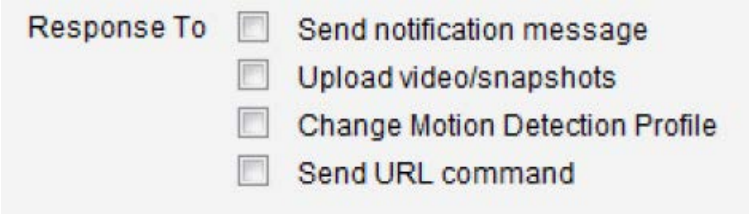
Device Boot or Reboot: an event can be triggered when the camera boots or reboots.

Storage: if storage space runs out or if writing to storage fails, or if the microSD card is suddenly removed from the camera.

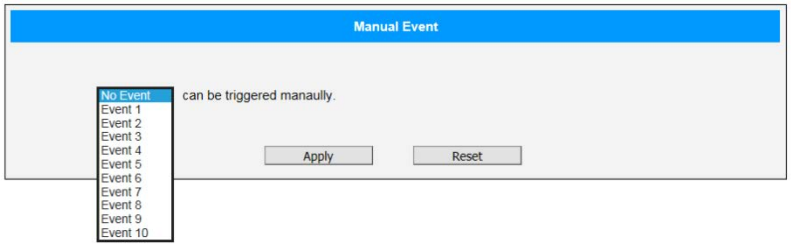


To configure triggers:

1. Use the drop-down menu to choose a **Triggered by** category.
2. If needed, choose a **Region**.
3. Designate a **response** to the event.



Manual Event



You can set any event rule as a manual event. The manual event will display in the live screen as the Trigger button, which can be clicked to trigger an event and response.

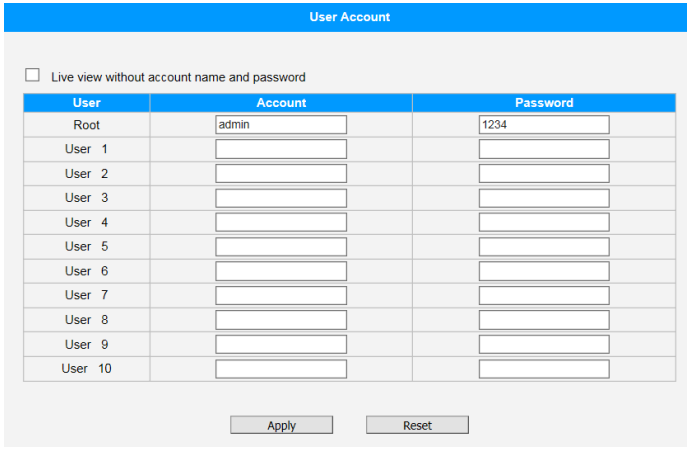
To set a manual event:

1. Us the drop-down menu to select an **Event Rule**.
2. Click **Apply**.

System

The System section provides the list of functions that help manage the camera

User Account



User Account allows you to change the account name or password of the Administrator account that has full access to the camera, create up to 10 common users that only have access for live view and the PTZ control, and to enable/disable the option for live view by users who are not logged in.

System Info

The System Info provides the full information about camera status, settings, and log. This information is for viewing purposes and may assist you with camera configuration or maintenance.

Factory Default

This section allows you to return the camera to default settings, and also provide the option of preserving the network setting and HTTP/HTTPS port.

Select which option best fits your needs, and then click **Apply.**

Firmware Upload

This section allows you to remote upgrade, or in some cases downgrade, the camera firmware. Upgrading is most commonly done to attain new functions or fix existing issues. Downgrading may be necessary when attempting to integrate with other products.

To download new firmware:

1. Download the firmware file form xxxxxxxx.com. The file will have the extension ".upg."
2. In the Firmware Upload section, click **Apply.**
3. Click **Browse** to search for the desired firmware file, and then click **Apply** to start the upload.

Upon completion of upgrade, the system will reboot.

Save and Reboot

The Save and Reboot section allows you to save settings and reboot the camera remotely. This is an important function because some changes will not take effect until a Save and Reboot has been completed.

To Save and Reboot, click **Apply.**

Logout

It is recommended that you log out of your AvertX HD510 PTZ camera when you have finished all of the desired tasks. This will prevent unauthorized use of the camera.

FOUR: SPECIFICATIONS

CAMERA SPECIFICATIONS

Model	HD510 PTZ
Resolution	1080p (2MP)
IP Rating	IP66
Wide Dynamic Range	Spectrum Vision Wide Dynamic Range
Day / Night	True Day/Night
Focal Length	4.3~129 mm
FOV	66.4°~2.61°
Iris Control	F1.6~F5.0 auto-iris
Audio	2 way (Requires additional equipment)
Auto Gain Control	Yes
Backlight Compensation	Yes
Day / Night	True Day/Night
IR LED	No
Compression	H.264 / MJPEG
Privacy Mask	Yes
Operating Temperature	-40°F ~ 122°F (-40°C ~ 50°C)
Heater	Yes
Power Consumption	25.44W (PoE+) / 31.5W (24vAC)
Input Voltage	PoE+ / 24wAC
Weight	5.7 lbs (2.58 kg)
Dimensions	H: 10.9” x W: 7.9” (276 mm x 200 mm)

PTZ Detail

Presets	256 Preset positions, 10 Preset tours
Alarm Inputs	4
Relay Outputs	2
Tilt/rotation	Pan: 0°-360° endless; Tilt: -20°-200°
Image Stabilization	Yes

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